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 README 



Black-day-book

Prior art disclosure: offline survival knowledge device with e-ink display, 1TB+ storage, solar charging and EMP shielding. CC BY 4.0

DAY BOOK Offline Survival Knowledge Device Open Hardware Prior Art Disclosure

Author: Mykola Karmanov Contact: karmanov5991@gmail.com Date of first publication: 2026-03-01 Time: 20:27:55 CET GitHub commit: <https://github.com/MykolaKarmanov/Black-day-book/commit/fa3243b1c501ecfcbfdb64c68a29d66ebf740a3f>

PRIOR ART DECLARATION

This document constitutes a public prior art disclosure of the BLACK DAY BOOK concept. It is intentionally published to prevent any third party from obtaining patent protection on this concept or any implementation of it.

This disclosure is "enabling" — it contains sufficient technical detail for a person skilled in the art to implement the concept.

About

Prior art disclosure: offline survival knowledge device with e-ink display, 1TB+ storage, solar charging and EMP shielding. CC BY 4.0

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CORE CONCEPT (10 DEFINING PRINCIPLES)

The BLACK DAY BOOK is defined exclusively by these 10 principles, regardless of physical dimensions, materials, or specific components used:

1. E-ink display (any size or type)
2. Zero wireless — no WiFi, Bluetooth, GPS, cellular, NFC, or any radio
3. 1TB+ offline knowledge storage
4. Solar charging built into device
5. Physical buttons as primary input
6. EMP shielding (Faraday enclosure)
7. Curated survival knowledge base pre-loaded on device
8. Multi-source power: battery + solar + manual backup
9. Handheld portable form factor
10. Purpose-built exclusively for offline catastrophe use

Any device implementing all 10 principles is an implementation of this concept.

PROBLEM STATEMENT

During major catastrophes — war, EMP attacks, solar storms, grid collapse, occupation — all connected devices become useless.

Existing e-readers (Kindle, Kobo, reMarkable) have 32-64GB storage maximum and require internet for full functionality.

No device currently exists that combines:

- Offline-first design (zero wireless)
- Large curated knowledge base (1TB+)
- Solar + battery + manual power
- Military-grade physical protection

- EMP Faraday shielding
- Purpose-built for catastrophe scenarios

TECHNICAL IMPLEMENTATION (Enabling Disclosure)

DISPLAY SUBSYSTEM Technology: Electrophoretic E-Ink (e.g. E Ink Kaleido, Carta 1200) Size: 4" to 6" (reference: 5.2" square) Resolution: 300 DPI minimum Controller: IT8951 e-ink controller chip Interface: SPI or USB to main processor Backlight: Optional warm LED array PWM controlled, <50mA draw

MAIN PROCESSOR SUBSYSTEM Architecture: ARM Cortex-A series Reference: Rockchip RK3566 SoC or equivalent low-power ARM RAM: 2GB LPDDR4 minimum Interface: PCIe or eMMC bus to storage

STORAGE SUBSYSTEM Internal: eMMC 5.1 or NVMe SSD 1TB minimum (VERSION 1TB) 2TB minimum (VERSION 2TB) External: microSD XC slot supporting up to 2TB Filesystem: ext4 or squashfs (read-only)

POWER SUBSYSTEM Battery: LiPo flat cell 10,000 mAh minimum 3.7V nominal Protection circuit (BMS) Solar: Monocrystalline silicon panel Built into rear or lid surface 5-10W peak output MPPT charge controller Manual backup: Hand crank DC generator Built-in or USB-C attached Output: 5V regulated Charge IC: CN3791 MPPT or equivalent USB-C: Power Delivery input/output Indicator: E-ink battery % on status bar

EMP PROTECTION SUBSYSTEM Method: Faraday cage Material: Copper mesh or solid aluminum enclosure Thickness: 0.5mm minimum copper or 1mm aluminum Seams: Conductive gaskets at all joints Ports: Filtered connectors (ferrite + capacitor filters) Goal: Attenuation >60dB at 1GHz

PHYSICAL PROTECTION Standard: MIL-STD-810H Ingress: IP67 minimum Drop: 2 meters onto concrete Temperature: -20°C to +60°C operating Screen: Gorilla Glass or equivalent chemically strengthened glass

INPUT SUBSYSTEM Primary: Minimum 6 physical buttons Up / Down / Left / Right Select / Back Material: Tactile switches rated 1M+ cycles Design: Operable with winter gloves Optional: Capacitive touch layer on e-ink (secondary input only)

SOFTWARE SUBSYSTEM OS: Linux kernel 5.x minimal build Read-only root filesystem No network stack compiled in Reader: Kiwix 3.x engine (open source, ZIM format) Document: PDF + EPUB reader Search: Xapian full-text search index Pre-built at factory Maps: OsmAnd or equivalent OpenTopoMap tiles offline UI: Custom minimal menu system Button-navigable hierarchy Languages: Ukrainian + English minimum Boot time: <10 seconds to readable content

INTENTIONALLY ABSENT — BY DESIGN

NO WiFi (no wireless chipset installed) NO Bluetooth (no wireless chipset installed) NO GPS (no GNSS module installed) NO cellular (no modem installed) NO camera (no image sensor installed) NO microphone (no audio input installed) NO NFC (no NFC chipset installed) NO cloud connectivity NO user accounts NO telemetry or tracking

Absence of wireless is a core design requirement, not a cost-saving measure.

PRE-LOADED KNOWLEDGE BASE

All content from public domain, open license, or government sources.

CATEGORY SIZE	
Wikipedia EN + UA (Kiwix ZIM) 345 GB WikiHow offline (Kiwix ZIM) 60 GB Khan Academy offline (Kiwix) 30 GB Project Gutenberg 70,000 books 60 GB Stack Overflow dump 100 GB	
Survival manuals 0.3 GB	
US Army FM 21-76 Nuclear War Survival Skills Tom Brown Field Guides	
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Energy 1.6 GB Solar, wind, biogas, hydro IRENA technical guides	
Food preservation 0.1 GB Construction 0.7 GB Chemistry and Crafts 0.2 GB Navigation and Radio 0.1 GB	
Maps — OpenTopoMap world 147 GB Topographic paper-style Roads, terrain, rivers Settlements, elevation	
TOTAL BASE ~761 GB	
VERSION 1TB user space ~239 GB VERSION 2TB user space ~1.2 TB	

REFERENCE VERSIONS

VERSION 1TB Internal storage: 1TB External slot: microSD up to 1TB Est. retail: \$499

VERSION 2TB Internal storage: 2TB External slot: microSD up to 2TB Est. retail: \$699

ART SCOPE

This disclosure covers the BLACK DAY BOOK concept in ALL implementations including but not limited to:

- Any physical dimensions or form factor
- Any storage capacity of 1TB or greater
- Any e-ink display size or manufacturer
- Any battery capacity
- Any solar panel type or configuration
- Any EMP shielding method or material
- Any ARM or equivalent low-power processor
- Any Linux or equivalent minimal OS
- Any combination of the above

provided the implementation satisfies all 10 CORE PRINCIPLES defined above.

PRIOR

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